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(San Clemente, California)

THE WHITE HOUSE

PRESS CONFERENCE
OF

DR. JAMES FLETCHER, ADMINISTRATOR, NASA
AND

DEPUTY ADMINISTRATOR GEORGE M. LOW

SAN CLEMENTE INN

11:15 A.M. PST

MR. WARREN: The President met this morning for 45 minutes with Dr. Fletcher, Administrator of NASA, and Dr. George Low, the Deputy Administrator.

This meeting was to discuss the possibilities of future initiatives in the area of manned space exploration, and as you know now, the decision was made to proceed with the space shuttle. The President's statement outlines the importance he attaches to this decision.

Dr. Fletcher and Dr. Low are here this morning to discuss the space shuttle system and the meeting with the President. Dr. Fletcher?

DR. FLETCHER: Good morning.

This decision by the President is a most historic step in the history of the space program in that it gives man for the first time the capability of routinely, and at a moment's notice, when necessary, of getting to and from space with either men or equipment. This all can be done within the framework of a space program which is useful in science applications and exploration, and can be fit essentially into what is today's budget.

There are perhaps four main reasons why this space shuttle is important and is the right step in the manned space flight and the U.S. space program. These statements are outlined, I believe, in your fact sheet and in the supplementary material, but very briefly, they are, first, the shuttle is the only meaningful new manned space program which can be accomplished on a modest budget.

Second, the space shuttle is needed to make space operations less complex and less costly.

Third, the space shuttle is needed to do many useful things.

Fourth, the shuttle will encourage greater international cooperation in space flight.

The President is particularly anxious that I stress the international aspects of this. This program will be open to all the nations of the world, and it is his hope some day that foreign visitors from all over the world will be able to participate by moving to and from space in the space shuttle.

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(OVER)

I should add, parenthetically, that perhaps the greatest benefit may very well come in making good use of the professional skills and professional employees, some of whom are wondering about where the aerospace world is going. I think it is proper to say at this time that we anticipate that at its peak, the direct employment on the space shuttle will be of the order of 50,000 individuals. Of course, a great many of those will be employed in this area.

Now, at this point, I would like to call your attention to the fact sheets that we have passed out, and I will be happy to answer questions, or Dr. Low, on these or any other items related to the shuttle.

Q What will the payload be?

DR. FLETCHER: Are you referring to the dimension or the weight of the payload?

Q The dimension and the weight. The dimensions are in the fact sheet, I believe.

DR. FLETCHER: The dimension of the payload is approximately 15 feet in diameter by 60 feet in length, and the payload weight can be up to 65,000 pounds.

Q Doctor, can you tell us who will be the prime contractor for this?

DR. FLETCHER: The prime contractor will be chosen some time this summer. The request for the proposals will be submitted to the major aerospace companies in this country early in the spring some time, and most of the aerospace companies, I believe, will be involved in this competition.

Q Could you tell us the names of the companies that will be involved in the competition?

DR. FLETCHER: I can't say for sure, but I would at least include these companies as likely candidates: McDonnell-Douglas, Grumman, General Dynamics, Boeing, North American Rockwell, Lockheed, the Martin Company...

Q Will this space shuttle have the capability of intercepting and, if necessary, destroying other Earth-orbiting satellites?

DR. FLETCHER: The mission of the space shuttle is primarily a peaceful one. On the other hand, the military has, of course, great interest in this, and I think that it is not determined by them what use they will make of it. I think it is even possible that they will have their own version of the shuttle when the time comes, so we can separate out the peaceful use.

Q Will it be capable of intercepting other satellites?

DR. FLETCHER: I believe it has this capability, providing the appropriate equipment is developed in connection with it. We are not developing that equipment at NASA.

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Q Have any foreign governments indicated interest already in participating in this program, and which ones?

DR. FLETCHER: Yes. There are two kinds of participation: participation in the development and participation in the use. All of the nations of the world that I have had any contact with are interested in the use of the shuttle. They all have missions that would be applicable to the shuttle, or that the shuttle would be useful for.

In the development, however, the entire European Community, as related by ELDO and ESRO, are interested in participating financially as well as actually in the development of the shuttle. We have had a series of discussions over the last more than a year, and so far they haven't made a commitment as to which aspect of it they would like to participate in.

Q Doctor, if they did participate, would it in any way reduce this estimated cost of \$5-1/2 or \$6-1/2 billion?

DR. FLETCHER: If they participated in the development in a financial way, the cost to us, of course, would be less by that amount. We would not expect that it would be a large reduction. They haven't talked in terms of actual numbers, but I would guess 10 to 15 percent is a ballpark figure that they have been discussing.

Q Is the Soviet Union headed in this same direction, or are they ahead of us?

DR. FLETCHER: I don't know in which direction the Soviet Union is heading, since they don't really give us an indication of what their future plans are. I would guess, however, that when the space shuttle is finished, everyone in the world will have to come to us, because of the extremely low cost to orbit the shuttle, and it is quite possible the Soviets would look to doing the same thing themselves.

Q Could you tell us what other options the President had in continuing the space program? In other words, is this decision taken at the expense of other programs that you may have had in mind?

DR. FLETCHER: I cannot honestly say it was taken at the expense of other programs that we have in mind. Ever since I have been at NASA it has been the principal thrust of our efforts in the manned space program. It will have a positive effect on the unmanned space program in the latter part of this decade, but at the present time it will be independent. The unmanned space program will continue. The expedition to Mars, Mercury and Venus, and even Jupiter, will continue without the shuttle, at no real cost to that program.

Q Doctor, you mentioned briefly about the possible employment that would be provided by the shuttle program. Could you expand on that on the local level here in Southern California?

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DR. FLETCHER: George, you correct me if I am mistaken, but I am under the impression that of those 50,000 jobs, that a large fraction, perhaps half, would be in the West Coast area, and certainly a large part of that would be in Southern California. That would be the best guess. Of course, the contractors haven't been selected, but any program this broad is bound to have an impact of that sort in Southern California.

Q What is the current status of the space shuttle? Where do we stand now?

DR. FLETCHER: We have just about completed what we call Phase B. We have completed Phase A, which is a preliminary design. Phase B is a more detailed design, and that will be finished about the end of April, and at that time we will be ready to go into what we call Phase C/D, which is the development and the procurement phase, and that is what we are talking about appointing contractors for this summer.

Q Does that mean that the plans are now virtually complete and it is a case of building it now?

DR. FLETCHER: The essential plans are complete. There are many small, technical decisions that have to be made between now and the spring, when the request for proposals goes out, but essentially, the decision has been made.

Q How much money will you have in your fiscal 1973 budget for the shuttle?

DR. FLETCHER: It is very difficult to answer budgetary questions at this time, since the President is still deliberating about budget matters. I would guess in due time we will find that out.

Q Dr. Fletcher, is the booster rocket reusable in this, or only the orbiter?

DR. FLETCHER: The orbiter is reusable except for this fuel tank.

Q Can you demonstrate to us how the whole thing works?

DR. FLETCHER: Maybe that would be a good way to answer the question. On the piggyback position, there is the actual orbiter, and that is the device that actually lands on an ordinary landing strip and brings back payloads or men or whatever. That is the orbiter. The orbiter is fueled by a large hydrogen-oxygen fuel tank which is disposed of from orbit and will not be used again. It is just a big tank.

In addition to that, we have two boosters in this particular version. Now, this isn't the only version. The contractors will have to decide that in the competition. But these are the boosters that will be used to get the orbiter up to speed so it can take over and can go into orbit. These are pressure-fed boosters in this version, and these will be dropped perhaps 200 miles downrange, probably in the water, and then towed back and reused again.

The impact in the water is not great, so we anticipate no damage, and they could be used again as soon as they are towed back to the launching platform.

So you have the three parts: The boosters, which are recoverable from the water; the gas tank for the orbiter, which is very large and will be disposed of from orbit; and the orbiter itself, which is the workhorse.

Q Will the tanks float?

DR. FLETCHER: The tanks will float, yes.

Q Ultimately, how many shuttles or orbiters do you intend to build; just one, or more than that?

DR. FLETCHER: George, you will have to help on this one.

DR. LOW: There are two planned for the development and test program, and then as many as are needed afterward for the operational program. We are thinking in terms of three more.

Q A total of five?

DR. LOW: Yes.

DR. FLETCHER: Of course, the actual number, I think, will depend on how many new nations come in. By the time 1978 or 1979 comes along, a lot of people will be interested, so these numbers are approximate.

Q You spoke of 50,000 jobs. To put that in context, how many jobs will be lost because of the phasing out of the APOLLO?

DR. FLETCHER: I would guess because of the gradual reduction not just in APOLLO, but in the space program generally, but primarily in APOLLO, we might be talking about a loss of as many as 200,000 jobs over the last four or five years. Now, this will not completely replace all of those, needless to say, but our budget is not going to be what it was four years ago. We had a budget of the order of \$6 billion a year then. It is now \$3 billion a year, and that is more in keeping with the current atmosphere and needs of the country as far as space is concerned.

Q What other launch vehicles will stay in the fleet?

DR. FLETCHER: That is difficult to say. It is hoped that this will replace essentially all of the larger launch vehicles. It is likely that the Scout, which was a much smaller vehicle, will remain, although that is not certain, and it is possible that the Defense Department will stay with one of their own launchers or boosters.

Q Atlas, you mean?

DR. FLETCHER: I wouldn't want to put words in their mouths, but I would guess the TITAN-III would be a likely one to keep. That is their decision; not ours.

Q Doctor, are any of these components designed or built to be compatible with any Soviet space equipment?

DR. FLETCHER: George, do you want to answer that? You have been involved in the international end.

DR. LOW: We have had discussions now for over a year concerning the docking mechanism, a compatible docking system for ours and theirs. It is our intention that if these discussions proceed as well as they have in the past, to have in the shuttle, for docking missions, a docking system that would fit with theirs, so that we could, in space, join with them in whatever spacecraft they are flying at that time.

Q So that the orbiter will eventually be compatible with the Russian space system?

DR. LOW: That is our hope.

Q Dr. Fletcher, how firmly are you committed to the European Space Conference?

DR. FLETCHER: I think we are completely committed to the idea of European cooperation. Just what they do and just what we do is subject to negotiation; but we have said, ourselves, at NASA, and Assistant Secretary of State Alexis Johnson has also written a letter to them expressing our interest in cooperating, but so far no definitive commitments have been made on either side.

Q How much time do the Europeans have to decide?

DR. FLETCHER: I would guess considerable. I can only tell you what the sequence is. George, maybe you have the sequence better in mind.

DR. LOW: How much time they have depends on the level of participation, and participation means flying payloads, experiments, and flying astronauts. They have six or seven years to decide. If it means building subsystems or part of the system, then I would think they would have to decide about the time we select our contractors, or shortly thereafter, which is measured in terms of about one year.

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Q Why would a foreign power want to participate in developing if they can sit back and let us develop it and use it themselves?

DR. FLETCHER: I think that Europe particularly, and Japan, additionally, are both interested in developing the technology within their own individual countries, and this will give them a chance of developing some of that technology.

I wouldn't want to put words in their mouths, but that would be my guess as to why they are interested.

Q With reference to the recovery of the warhead, does this mean then that the program will be based at Cape Kennedy?

DR. FLETCHER: The decision on the launch site, which will be the same as the landing site, hasn't been made, and the reason it hasn't been made is that we haven't firmed up on the configuration until right now.

We are going to give full speed ahead to the site selection group that has been working with this problem for the last almost a year, and we hope to have the decision as soon as we can get a recommendation from that group on the location of the launch site. It is not necessarily Cape Kennedy or any other site at this time.

Q Is it possible that Edwards Air Force Base here in California could be the launch site?

DR. FLETCHER: That is certainly a candidate site.

Q Why is it a good candidate?

DR. FLETCHER: I can't say it is a good candidate or a bad candidate. It is one of quite a long number that the site selection group is looking at, and I wouldn't even want to say it is in the upper 20 percent, because they haven't briefed me yet on the result of their findings, and properly so, because they haven't chosen the configuration.

Q If Edwards Air Force Base would be selected, how much employment would this mean?

DR. FLETCHER: At Edwards?

Q Yes.

DR. FLETCHER: Do you want to try that, George? I don't know the answer to that.

DR. LOW: I don't either. We are talking in terms of new launch and landing type facilities for the shuttle, involving about \$300 million, but I don't have an employment figure for you on that.

Q Dr. Fletcher, the President's statement says we can have the shuttle manned flight by 1978 and operational a short time later. Does that mean the first test would be in 1978 and then the use of the thing would come later?

DR. FLETCHER: Yes, it is now planned that the first manned orbital flight would take place in 1978. The operational definition is always an ambiguous one. We would hope to put it into use shortly thereafter.

Q What will the space program do between the end of the APOLLO program and the beginning of this one?

DR. FLETCHER: At the present time there are no definitive plans between the end of APOLLO and the beginning of the shuttle, except for the Sky Lab, which will take place in 1973. The Sky Lab is a manned laboratory in low altitude orbit, 250 miles or so high.

After that we have no real plans, but we do have some APOLLO hardware that hasn't been completely used up and we are thinking about ways in which those pieces of hardware, particularly the command module, could be used.

Q Dr. Fletcher, what are the principal possible military uses for the shuttle?

DR. FLETCHER: It is hard for me to go into the military aspects of it, for two reasons. One is that I am not the expert in these areas, and the other is that the military, I would guess, would rather say themselves.

But you can imagine that when you have the capability of routinely moving into space, which is rather close to all of us, and on a moments notice, when something strange happens, this would be of some value to the military, and they are thinking, I would imagine, along those lines.

In addition, of course, of the low cost. If we can bring the cost down by a factor of ten, and that is what it is anticipated to be, say, over the TITAN III. I am sure the military will be using the shuttle routinely for most of their payloads.

Q You say on a moments notice. How much is a moments notice, a matter of hours, a matter of minutes?

DR. FLETCHER: The present estimates are, when we are prepared for it, 24 to 48 hours would be required from the time we say, "Yes, we need to go up in space," until the time we are there.

Now, that doesn't count, of course, the time for developing whatever equipment has to go in. But remember, this equipment doesn't have to survive for long periods of time in space unattended. So the equipment for such a mission could be much simpler and developed in a much shorter time, whether it be scientific payloads or earth observation payloads or military.

Q What is the President's feeling about the possible military use of the space shuttle?

DR. FLETCHER: I think the President has said that space is an important place; man has the capability of being involved in space, and therefore, this nation can't afford not to be there. I think that is approximately what he said.

Now, this is primarily for civilians, but I think the military aspect of it is there, also.

DR. LOW: On the previous point, we were talking about the quick, routine, easy access to space in terms of the possible military missions, but this is just as important for civilian missions, like looking at earthquakes, looking at floods, looking at all sorts of phenomena that might occur to our environment, to our earth resources, where again, we would like to have quick, easy access capability, and this the shuttle will do for us.

Q It is conceivable that you can have an orbitor in space at all times, is it not?

DR. FLETCHER: Yes, I think with the number of orbitors that are planned to be purchased according to Dr. Low's statement, it would be possible to have an orbitor in space at all times.

But that isn't the plan. Our plan is to routinely go there and take payloads and bring them back, but not necessarily having one there all the time.

Q That would make the 24 to 48 hours time moot, in the military terms, wouldn't it?

DR. FLETCHER: From that point of view, I guess you are right. I don't want to over-emphasize the military point of view. As Dr. Low said, the President is very interested in the disaster kind of mission or the quick reaction mission, and that is the flood and the earthquake. The President is very interested in that, also.

Q Doctor, what kind of facilities does the shuttle require to land? Could it land at Los Angeles Airport or does it need some special ---

DR. FLETCHER: It needs an air strip that can support the shuttle, but remember, this is not a very large device. It is like a DC-9, but the main point is that when it lands, it has to take off again, if you are going to use it again, so all of the equipment that is necessary to refurbish it, to refuel and move it to the launch stand has to be there at the landing site.

Q It could be transported, if it had to land somewhere else, couldn't it?

DR. FLETCHER: It could be transported, and we have looked at that possibility. At the present time it looks as though it is more economical to have the landing site at the same place as the launch site.

Q It could land on a runway that a plane could land on, though?

DR. LOW: I don't think there is any question of runway length here. What I don't know yet is what kind of electronic aids, GCA or ILS, or whatever else you would need for coming back from space and landing on the runway, and this kind of equipment might not be available at any airport.

THE PRESS: Thank you, gentlemen.

END

(AT 11:42 A.M. PST.)

11/5/72
San Clemente, California

STATEMENT BY DR. FLETCHER

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(See also
NASA memo 72-4)
72-4)

As indicated in the President's statement, the studies by NASA and the aerospace industry of the space shuttle have now reached the point where the decision can be made to proceed into actual development of the space shuttle vehicle. The decision to proceed, which the President has now approved, is consistent with the plans presented to and approved by the Congress in NASA's FY 1972 budget.

This decision by the President is a historic step in the nation's space program -- it will change the nature of what man can do in space. By the end of this decade the nation will have the means of getting men and equipment to and from space routinely, on a moment's notice if necessary, and at a small fraction of today's cost. This will be done within the framework of a useful total space program of science, exploration, and applications at approximately the present overall level of the space budget.

The space shuttle will consist of an airplane-like orbiter, about the size of a DC-9. It will be capable of carrying into orbit and back again to earth useful payloads up to 15 feet in diameter by 60 feet long, and weighing up to 65,000 lbs. Fuel for the orbiter's liquid-hydrogen liquid-oxygen engines will be carried in an external tank that will be jettisoned in orbit.

The orbiter will be launched by an unmanned booster.

The orbiter can operate in space for about a week. The men on board will be able to launch, service, or recover unmanned spacecraft; perform experiments and other useful operations in earth orbit; and farther in the future resupply with men and equipment space modules which themselves have been brought to space by the space shuttle. When each mission has been completed, the space shuttle will return to earth and land on a runway like an airplane.

There are four main reasons why the space shuttle is important and is the right step in manned space flight and the U.S. space program. Very briefly:

First, the shuttle is the only meaningful new manned space program which can be accomplished on a modest budget.

Second, the space shuttle is needed to make space operations less complex and less costly.

Third, the space shuttle is needed to do useful things.

Fourth, the shuttle will encourage greater international participation in space flight.

On the basis of today's decision, NASA will proceed as follows:

This spring we will issue a request for prospective contractors. This summer we will place the space shuttle under contract and development work will start. Between now and about the end of February, NASA and our contractors will focus their study efforts on technical areas where further detailed information is required before the requests for contractor proposals can be issued. These areas include comparisons of pressure-fed liquid and solid rocket motor options for the booster stage.